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## (54) Fixed mounted sorting cuvette with user replaceable nozzle

(57) A flow cell and flow cytometer in which a nozzle at the end of a flow channel is disposed on a removable substrate held at a registered location on a flow cell. Other elements including illumination optics, light collection optics, and the flow cell may then be positioned at fixed locations and would not require subsequent periodic adjustment. The registered location for positioning the nozzle allows removal and replacement of the nozzle key with the nozzle subsequently positioned in the identical location.

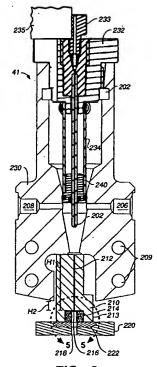


FIG.\_3



## **EUROPEAN SEARCH REPORT**

Application Number EP 03 02 0445

Category	Citation of document with indication, who	ere appropriate,	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.CI.7)
X,D	US 4 660 971 A (SAGE ET AL 28 April 1987 (1987-04-28)	)	1-3,5,6, 10-19, 23-44, 55-69	G01N15/14
Y	* the whole document *		4,7-9, 20-22, 45-54	
Y,D	US 6 133 044 A (VAN DEN EN 17 October 2000 (2000-10-1	GH GER) 7)	7-9, 20-22, 45-54	:
	* abstract * * column 9, line 28 - column 5	πn 10, line 4 *		
Y,D	US 5 700 692 A (SWEET RICH 23 December 1997 (1997-12-2 * abstract * * column 4, line 27 - line * figure 1 *	23)	4	TECHNICAL FIELDS SEARCHED (Int.Cl.7)
Υ	US 5 517 870 A (KURIMURA M. 21 May 1996 (1996-05-21) * abstract * * column 8, line 9 - line : * figure 3 *	-	7-9, 20-22	G01N
				·
	The present search report has been drawn u			,
		late of completion of the search  12 February 2004	Rra	Examiner vin, M
X : parti Y : parti docu	ATEGORY OF CITED DOCUMENTS  icularly relevant if taken alone icularly relevant if combined with another iment of the same category	T: theory or principle E: earlier patent docu after the filing date D: document cited in L: document cited for	underlying the in ment, but publis the application other reasons	rvention hed on, or
	nological background -written disclosure	& : member of the sar		corresponding

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## ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 03 02 0445

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

12-02-2004

Patent document cited in search report			Publication date		Patent family member(s)		Publication date
US	4660971	A	28-04-1987	AU AU CA DE DK EP FI JP JP	573144 4098985 1242593 3577747 187985 0160201 851323 1928836 4031353 60238762	A A1 D1 A ,B, A2 A ,B, C	26-05-1988 07-11-1985 04-10-1988 21-06-1990 04-11-1985 06-11-1985 12-05-1995 26-05-1992 27-11-1985
US	6133044	A	17-10-2000	AU AU CA DE EP JP WO	698929 3958295 2201324 69532416 0786078 10507524 9612171	A A1 D1 A2 T	12-11-1998 06-05-1996 25-04-1996 12-02-2004 30-07-1997 21-07-1998 25-04-1996
US	5700692	Α	23-12 <b>-</b> 1997	NONE			
US	5517870	A	21-05-1996	JP JP	2763468 6194300		11-06-1998 15-07-1994
	·						
			•				

b For more details about this annex : see Official Journal of the European Patent Office, No. 12/82